Xinmeng Li

161 College Avenue, Medford, MA, USA 02155
✆ *(+1) 339-674-8882*
✉ *xinmeng.li@tufts.edu*

Education

Tufts University	**Ph.D. in Computer Science**	*Expected May 2021*
	Research Focus on Computational Biology and Machine learning	
Tufts University	**M.S. in Computer Science** (GPA 3.9/4.0)	*2015 - 2017*
Sichuan University	**B.S. in Computer Science** (Excellent Graduate, top 2%)	*2011 - 2015*

Professional Experience

Research Assistant	**Tufts University**	*2016 - present*

- Perform research in the area of computational biology and machine learning.
- Mentor and train undergraduate students on research.
- Publish research finding in journals and conferences.

Teaching Assistant	**Tufts University**	*2015 - present*

- Prepare materials for courses in machine learning and computational biology.
- Manage lab operations and hold office hour to supervise students.

Summer Intern	**Food and Drug Administration**	*2019*

- Develop deep learning models to assist drug review computationally.
- Analyze data of drug concentration over time in plasma with models.

Research Projects

Reaction Prediction	One-class Recommender Systems for Modeling Enzyme-substrate Interactions

- Construct recommender systems to predict enzyme-substrate interactions.
- Evaluate performance of SVD-based and neural network-based models.
- Solve the one-class classification problem with metabolomic data.

Sequence Design	Antibody Sequence Analysis Pipeline using Statistical Testing and Machine Learning

- Develop a pipeline to analyze salient features in antibody protein sequences.
- Provide antibody sequence design recommendations on salient features.
- Make the pipeline available at http://github.com/HassounLab/ASAP-SML.

Metabolite Annotation	Metabolite Annotation with Tandem Mass Spectra Data using Deep Learning

- Identify metabolites with spectra data using deep learning models.
- Analyze metabolite structure representation data and tandem mass spectra data.

Pathway Annotation	Pathway Annotation in Metabolic Network with Metabolomics Data

- Annotation active pathways based on statistical tests and clustering methods.
- Analyze untargeted metabolomics data in metabolomic networks.

Awards

Scholarships	Tang Lixin Scholarship, Tang Lixin Education Foundation	*2014 - present*
	Grace Hopper Conference Scholarship, AnitaB.org	*2019*
	CRA-W Conference Scholarship, Computing Research Association	*2018*
	Kerk and Janelle Loevner Graduate Fellowship, Tufts University	*2017*
Research Grants	College Student Innovative Research Grant, Ministry of Education of China	*2013*
	Student Research Grant, Sichuan University	*2012*

Programming Skills

Languages	Proficient in Python, MATLAB, C++, LaTex
Python Packages	Familiar with Numpy, Pandas, RdKit, TensorFlow, PyTorch, Keras
Biochem Databases	Experienced with PDB, PubChem, KEGG, IMGT, HMDB

Publications

Journal Papers

- **Li X**, Van Deventer JA, Hassoun S. "ASAP-SML: An Antibody Sequence Analysis Pipeline using Statistical Testing and Machine Learning." PLoS computational biology. 16.4 (2020).

- Hu R, Wang Y, Yang M, **Li X**, Luo Z, Li G. "Improved Analysis of Inorganic Coal Properties Based on Near-infrared Reflectance Spectroscopy." Analytical Methods. 7 (2015)

Conference Posters

- **Li X**, Liu L, Hassoun S. "One-class Recommender Systems for Modeling Enzyme-substrate Interactions." ISCB International Conference on Intelligent Systems for Molecular Biology, 2020.

- **Li X**, Van Deventer JA, Hassoun S. "ASAP-SML: An Antibody Sequence Analysis Pipeline using Statistical Testing and Machine Learning." ISCB International Conference on Intelligent Systems for Molecular Biology, 2020.

- **Li X**, Van Deventer JA, Hassoun S. "Towards the Design of Matrix Metalloproteinases (MMP) Antibody Sequences." ACM International Conference on Bioinformatics, 2017.

- Porokhin V, **Li X**, Hassoun S. "Pathway Enrichment Analysis for Untargeted Metabolomics." ACM International Conference on Bioinformatics, 2017.

Software Copyright

- **Li X**, Liu L. "Volume Measurement System of Massive Material Based on Aerial Photography." Chinese Software Copyright, No.2014SR096344.